CLAIMS

We claim:

1. A method for verifying data stored in a data storage device, the data storage device storing data at a number of accessible addresses, a portion of the accessible addresses being designated as addresses to be verified, the method comprising the steps of:

verifying whether or not data stored at one of the addresses to be verified contains an error; and

repeating the verifying of data for at least the remaining addresses to be verified.

2. The method of claim 1, further comprising the step of designating the one of the addresses to be verified as a starting address.

3. The method of claim 2, wherein the step of repeating the verifying of data
comprises:

determining whether or not the previous address verified by said verifying is a last
address at the end of the data storage device; and

if the previous address is the last address, resetting the next address to be verified to a first address at the beginning of the data storage device;

if the previous address is not the last address, then advancing the next address to be verified to the next address of the data storage device.

4. The method of claim 2, further comprising the steps of designating an end address such that the portion of addresses to be verified includes a range of addresses from the starting address to the end address.

5. The method of claim 4, wherein the step of repeating the verifying of data further comprises:

determining whether or not the address verified by said verifying is the end address; and

if the address is the end address, setting the next address to be verified to the starting address;

if the address is not the end address, advancing the next address to be verified to the next address of the data storage device.

6. The method of claim 5, wherein the step of designating the one of the addresses as the starting address comprises designating the starting address as a first address at the beginning of said data storage device and the step of designating an end address comprises designating the end address as a last address at the end of said data storage device, such that said portion of addresses to be verified includes all of said accessible addresses.

7. The method of claim 6, wherein the step of repeating the verifying of data further comprises:

determining whether or not the address verified by the step of said verifying is the end address; and

if the address is the end address, setting the next address to be verified to the starting address;

if the address is not the end address, advancing the next address to be verified to the next address of the data storage device.

8. The method of claim 1, further comprising repeating the steps of verifying of data and repeating the verifying of data continuously until an error is detected.

9. The method of claim 8, further comprising a step of initiating an interrupt procedure upon detection of an error to correct the detected error.

10. The method of claim 1, further comprising repeating the steps of verifying of data and repeating the verifying of data continuously until interrupted by an external event.

11. A system for verifying data in a data storage device, the data storage device storing data in a number of accessible address locations, said system comprising:

means for designating a range of addresses from said number of accessible address locations as addresses to be verified;

means for verifying whether or not data stored in a starting address of said addresses to be verified contains an error;

means for incrementing the verified address;

means for determining whether or not the incremented address is at the end of the range of addresses to be verified;

means for changing the address to the next address when said means for determining has determined that the incremented address is not at the end of the range of addresses to be verified; and

means for resetting the address to an address at the start of the range of addresses to be verified when said means for determining has determined that the address is at the end of the range of addresses to be verified.

12. The system of claim 11, further comprising means for counting the number of errors detected by said means for verifying.

13. The system of claim 11, further comprising means for storing output results from said means for verifying.

14. A computer program stored on a computer for verifying data on a data storage device, the computer program comprising:

logic configured to input a starting address into an address counter;

logic configured to verify whether or not data stored at the location in said data storage device designated by said address counter contains an error;

logic configured to determine whether or not the address location in said address counter designates the last address at the end of said data storage device;

logic configured to reset the address counter to a first address at the beginning of said data storage device if the last address has been reached;

logic configured to increment the address counter if the last address has not been reached.

15. The computer program of claim 14, wherein the logic configured to verify is configured to repeatedly verify until an error is detected.

16. The computer program of claim 14, further comprising logic configured to

initiate an interrupt upon detection of an error by said logic configured to verify, wherein the logic configured to initiate an interrupt comprises logic configured to correct the detected error.

17. The computer program of claim 14, further comprising logic configured to repeat the verifying of data, resetting of the address counter, and incrementing the address counter continuously until interrupted by an external event.

18. A network-enabled device comprising:

a processing device; and

a memory device connected to the processing device, the memory device including verification circuitry that includes:

logic configured to perform verification of data stored within address locations of a data storage device,

logic configured to access the address locations in sequence to determine whether or not an error exists in the data stored in the accessed address location, and

logic configured to access the data in a first address location in said data storage device after accessing the data in a last address location